

8630-EN-01

DTIC

U of Bristol.

**EVALUATING 1 & 2D DIMENSIONAL MODELS FOR FLOODPLAIN  
INUNDATION MAPPING**

by

M.G.ANDERSON

Interim Report 001  
May 1999

United States Army

European Research Office of the U.S. Army  
London, England

**CONTRACT NUMBER N68171-98-M-5830**

Professor M G Anderson

Approved for Public Release: distribution unlimited.

19991004 204

## **EVALUATING 1 & 2D DIMENSIONAL MODELS FOR FLOODPLAIN INUNDATION MAPPING**

Professor M G Anderson

*School of Geographical Sciences, University of Bristol, University Road, Bristol, BS8  
1SS, UK. Tel: +44 117 9287871 Fax: +44 117 928 7878*

---

### **SUMMARY**

This document reports on the work undertaken in the first 3 months of the project.

---

### **BACKGROUND**

The aim of this project is to undertake a feasibility study into the potential utility of integrating high resolution two dimensional finite element flow models and Geographical Information Systems technology.

The initial phase of this research concerns the construction of an operational high resolution flow model for a 60km reach of the Missouri River between Gavins Point Dam and Maskell gauging station. Specifically, the contract seeks to produce a CRREL report and to assess data needs for 2D FE models for river flow inundation.

This report contains a brief review of progress on this work unit during months 0-3 of the research contact.

---

### **PROGRESS**

This reporting period saw the commencement of a **major review of CFD code development** for 2D FE modelling of compound channels.

In particular we examined the suitability of the TELEMAC system for enhanced Missouri River application.

This is involving collaboration with Electricité de France, Chatoux and code updating in respect of that used in N68170-94-C-9109.